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2853DATE: 04/24/2002  
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RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/996,292A  
Input Set : A:\ISIS4804.ST25.txt  
Output Set: N:\CRF3\04242002\I996292A.raw

3 <110> APPLICANT: Manoharan, Muthiah  
4 Maier, Martin A.  
5 Prakash, Thazha P.  
6 Rajeev, Kallanthottathil Gopalan  
8 <120> TITLE OF INVENTION: Nuclease Resistant Chimeric Oligonucleotides  
10 <130> FILE REFERENCE: ISIS-4804  
12 <140> CURRENT APPLICATION NUMBER: 09/996,292A  
13 <141> CURRENT FILING DATE: 2001-09-28  
15 <160> NUMBER OF SEQ ID NOS: 55  
17 <170> SOFTWARE: PatentIn version 3.1  
19 <210> SEQ ID NO: 1  
20 <211> LENGTH: 20  
21 <212> TYPE: DNA  
22 <213> ORGANISM: Artificial Sequence  
24 <220> FEATURE:  
25 <223> OTHER INFORMATION: Completely synthetic sequence  
27 <220> FEATURE:  
28 <221> NAME/KEY: misc\_feature  
29 <222> LOCATION: (1)..(20)  
30 <223> OTHER INFORMATION: All P=S  
33 <220> FEATURE:  
34 <221> NAME/KEY: misc\_feature  
35 <222> LOCATION: (1)..(1)  
36 <223> OTHER INFORMATION: N= L-Thymidine  
39 <220> FEATURE:  
40 <221> NAME/KEY: misc\_feature  
41 <222> LOCATION: (20)..(20)  
42 <223> OTHER INFORMATION: N= L-Thymidine  
45 <400> SEQUENCE: 1  
W--> 46 ngcatcccc aggccacan  
49 <210> SEQ ID NO: 2  
50 <211> LENGTH: 17  
51 <212> TYPE: DNA  
52 <213> ORGANISM: Artificial Sequence  
54 <220> FEATURE:  
55 <223> OTHER INFORMATION: Completely synthetic sequence  
57 <220> FEATURE:  
58 <221> NAME/KEY: misc\_feature  
59 <222> LOCATION: (1)..(17)  
60 <223> OTHER INFORMATION: All P=S  
63 <220> FEATURE:  
64 <221> NAME/KEY: misc\_feature  
65 <222> LOCATION: (1)..(1)

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file:///C:/CrF3/Outhold/VsrI996292A.htm

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Input Set : A:\ISIS4804.ST25.txt  
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66 <223> OTHER INFORMATION: N= L-Thymidine  
69 <220> FEATURE:  
70 <221> NAME/KEY: misc\_feature  
71 <222> LOCATION: (2)..(3)  
72 <223> OTHER INFORMATION: N= 2'-O-MOE 5meC  
75 <220> FEATURE:  
76 <221> NAME/KEY: misc\_feature  
77 <222> LOCATION: (15)..(15)  
78 <223> OTHER INFORMATION: N= 2'-O-MOE A  
81 <220> FEATURE:  
82 <221> NAME/KEY: misc\_feature  
83 <222> LOCATION: (16)..(16)  
84 <223> OTHER INFORMATION: N= 2'-O-MOE 5meU  
87 <220> FEATURE:  
88 <221> NAME/KEY: misc\_feature  
89 <222> LOCATION: (17)..(17)  
90 <223> OTHER INFORMATION: N= L-Thymidine  
93 <400> SEQUENCE: 2  
W--> 94 nnncgctgtg atgcnnn 17  
97 <210> SEQ ID NO: 3  
98 <211> LENGTH: 20  
99 <212> TYPE: DNA  
100 <213> ORGANISM: Artificial Sequence  
102 <220> FEATURE:  
103 <223> OTHER INFORMATION: Completely synthetic sequence  
105 <220> FEATURE:  
106 <221> NAME/KEY: misc\_feature  
107 <222> LOCATION: (1)..(20)  
108 <223> OTHER INFORMATION: All P=S  
111 <220> FEATURE:  
112 <221> NAME/KEY: misc\_feature  
113 <222> LOCATION: (1)..(1)  
114 <223> OTHER INFORMATION: N= L-Thymidine  
117 <220> FEATURE:  
118 <221> NAME/KEY: misc\_feature  
119 <222> LOCATION: (2)..(3)  
120 <223> OTHER INFORMATION: N= 2'-O-MOE 5meC  
123 <220> FEATURE:  
124 <221> NAME/KEY: misc\_feature  
125 <222> LOCATION: (13)..(14)  
126 <223> OTHER INFORMATION: N= 2'-O-MOE 5meC  
129 <220> FEATURE:  
130 <221> NAME/KEY: misc\_feature  
131 <222> LOCATION: (15)..(15)  
132 <223> OTHER INFORMATION: N= 2'-O-MOE 5meU  
135 <220> FEATURE:  
136 <221> NAME/KEY: misc\_feature  
137 <222> LOCATION: (16)..(16)  
138 <223> OTHER INFORMATION: N= 2'-O-MOE 5meC

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141 <220> FEATURE:  
 142 <221> NAME/KEY: misc\_feature  
 143 <222> LOCATION: (17)..(17)  
 144 <223> OTHER INFORMATION: N= 2'-O-MOE A  
 147 <220> FEATURE:  
 148 <221> NAME/KEY: misc\_feature  
 149 <222> LOCATION: (18)..(19)  
 150 <223> OTHER INFORMATION: N= 2'-O-MOE G  
 153 <220> FEATURE:  
 154 <221> NAME/KEY: misc\_feature  
 155 <222> LOCATION: (20)..(20)  
 156 <223> OTHER INFORMATION: N= L-Thymidine  
 159 <400> SEQUENCE: 3  
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 163 <210> SEQ ID NO: 4  
 164 <211> LENGTH: 20  
 165 <212> TYPE: DNA  
 166 <213> ORGANISM: Artificial Sequence  
 168 <220> FEATURE:  
 169 <223> OTHER INFORMATION: Completely synthetic sequence  
 171 <220> FEATURE:  
 172 <221> NAME/KEY: misc\_feature  
 173 <222> LOCATION: (1)..(20)  
 174 <223> OTHER INFORMATION: All P=S  
 177 <400> SEQUENCE: 4  
 178 tgcatcccc aggccacca 20  
 181 <210> SEQ ID NO: 5  
 182 <211> LENGTH: 20  
 183 <212> TYPE: DNA  
 184 <213> ORGANISM: Artificial Sequence  
 186 <220> FEATURE:  
 187 <223> OTHER INFORMATION: Completely synthetic sequence  
 189 <220> FEATURE:  
 190 <221> NAME/KEY: misc\_feature  
 191 <222> LOCATION: (1)..(20)  
 192 <223> OTHER INFORMATION: All P=S  
 195 <220> FEATURE:  
 196 <221> NAME/KEY: misc\_feature  
 197 <222> LOCATION: (1)..(1)  
 198 <223> OTHER INFORMATION: N= L-Thymidine  
 201 <220> FEATURE:  
 202 <221> NAME/KEY: misc\_feature  
 203 <222> LOCATION: (20)..(20)  
 204 <223> OTHER INFORMATION: N= L-Thymidine  
 207 <400> SEQUENCE: 5  
 W--> 208 ngcätcccc aggccacca 20  
 211 <210> SEQ ID NO: 6  
 212 <211> LENGTH: 17  
 213 <212> TYPE: DNA

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Input Set : A:\ISIS4804.ST25.txt  
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214 <213> ORGANISM: Artificial Sequence  
216 <220> FEATURE:  
217 <223> OTHER INFORMATION: Completely synthetic sequence  
219 <220> FEATURE:  
220 <221> NAME/KEY: misc\_feature  
221 <222> LOCATION: (1)..(17)  
222 <223> OTHER INFORMATION: All P=S  
225 <400> SEQUENCE: 6  
226 tcccgctgtg atgcatt 17  
229 <210> SEQ ID NO: 7  
230 <211> LENGTH: 17  
231 <212> TYPE: DNA  
232 <213> ORGANISM: Artificial Sequence  
234 <220> FEATURE:  
235 <223> OTHER INFORMATION: Completely synthetic sequence  
237 <220> FEATURE:  
238 <221> NAME/KEY: misc\_feature  
239 <222> LOCATION: (1)..(17)  
240 <223> OTHER INFORMATION: All P=S  
243 <220> FEATURE:  
244 <221> NAME/KEY: misc\_feature  
245 <222> LOCATION: (1)..(1)  
246 <223> OTHER INFORMATION: N= L-Thymidine  
249 <220> FEATURE:  
250 <221> NAME/KEY: misc\_feature  
251 <222> LOCATION: (2)..(3)  
252 <223> OTHER INFORMATION: N= 2'-O-MOE 5meC  
255 <220> FEATURE:  
256 <221> NAME/KEY: misc\_feature  
257 <222> LOCATION: (15)..(15)  
258 <223> OTHER INFORMATION: N= 2'-O-MOE A  
261 <220> FEATURE:  
262 <221> NAME/KEY: misc\_feature  
263 <222> LOCATION: (16)..(16)  
264 <223> OTHER INFORMATION: N= 2'-O-MOE 5meU  
267 <220> FEATURE:  
268 <221> NAME/KEY: misc\_feature  
269 <222> LOCATION: (17)..(17)  
270 <223> OTHER INFORMATION: N= L-Thymidine  
273 <400> SEQUENCE: 7  
W--> 274 nnnccgtgtg atgcnnnn 17  
277 <210> SEQ ID NO: 8  
278 <211> LENGTH: 20  
279 <212> TYPE: DNA  
280 <213> ORGANISM: Artificial Sequence  
282 <220> FEATURE:  
283 <223> OTHER INFORMATION: Completely synthetic sequence  
285 <220> FEATURE:  
286 <221> NAME/KEY: misc\_feature

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Input Set : A:\ISIS4804.ST25.txt  
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287 <222> LOCATION: (1)..(20)  
288 <223> OTHER INFORMATION: All P=S  
291 <220> FEATURE:  
292 <221> NAME/KEY: misc\_feature  
293 <222> LOCATION: (1)..(1)  
294 <223> OTHER INFORMATION: N= L-Cytidine  
297 <220> FEATURE:  
298 <221> NAME/KEY: misc\_feature  
299 <222> LOCATION: (2)..(2)  
300 <223> OTHER INFORMATION: N= 2'-O-MOE 5meU  
303 <220> FEATURE:  
304 <221> NAME/KEY: misc\_feature  
305 <222> LOCATION: (3)..(3)  
306 <223> OTHER INFORMATION: N= 2'-O-MOE A  
309 <220> FEATURE:  
310 <221> NAME/KEY: misc\_feature  
311 <222> LOCATION: (4)..(4)  
312 <223> OTHER INFORMATION: N= 2'-O-MOE G  
315 <220> FEATURE:  
316 <221> NAME/KEY: misc\_feature  
317 <222> LOCATION: (5)..(5)  
318 <223> OTHER INFORMATION: N= 2'-O-MOE A  
321 <220> FEATURE:  
322 <221> NAME/KEY: misc\_feature  
323 <222> LOCATION: (16)..(16)  
324 <223> OTHER INFORMATION: N= 2'-O-MOE 5meU  
327 <220> FEATURE:  
328 <221> NAME/KEY: misc\_feature  
329 <222> LOCATION: (17)..(17)  
330 <223> OTHER INFORMATION: N= 2'-O-MOE 5meC  
333 <220> FEATURE:  
334 <221> NAME/KEY: misc\_feature  
335 <222> LOCATION: (18)..(18)  
336 <223> OTHER INFORMATION: N= 2'-O-MOE G  
339 <220> FEATURE:  
340 <221> NAME/KEY: misc\_feature  
341 <222> LOCATION: (19)..(19)  
342 <223> OTHER INFORMATION: N= 2'-O-MOE 5meU  
345 <220> FEATURE:  
346 <221> NAME/KEY: misc\_feature  
347 <222> LOCATION: (20)..(20)  
348 <223> OTHER INFORMATION: N= 2'-O-MOE 5meC  
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355 <210> SEQ ID NO: 9  
356 <211> LENGTH: 20  
357 <212> TYPE: DNA  
358 <213> ORGANISM: Artificial Sequence  
360 <220> FEATURE:

RAW SEQUENCE LISTING ERROR SUMMARY  
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 1,20  
Seq#:2; N Pos. 1,2,3,15,16,17  
Seq#:3; N Pos. 1,2,3,13,14,15,16,17,18,19,20  
Seq#:5; N Pos. 1,20  
Seq#:7; N Pos. 1,2,3,15,16,17  
Seq#:8; N Pos. 1,2,3,4,5,16,17,18,19,20  
Seq#:9; N Pos. 1,2,3,4,5,16,17,18,19,20  
Seq#:10; N Pos. 1,2,3,4,5,16,17,18,19,20  
Seq#:11; N Pos. 10,11,12,13,14,16,17,18,19,20  
Seq#:12; N Pos. 1,10,11,12,13,14,16,17,18,19,20  
Seq#:13; N Pos. 9,10,11,12,20  
Seq#:14; N Pos. 1,9,10,11,12  
Seq#:15; N Pos. 1,9,10,11,12,20  
Seq#:16; N Pos. 1,2,3,4,5,16,17,18,19,20  
Seq#:17; N Pos. 10,11,12,13,14,16,17,18,19,20  
Seq#:18; N Pos. 1,2,3,4,5,16,17,18,19,20  
Seq#:19; N Pos. 10,11,12,13,14,15,16,17,18,19,20  
Seq#:20; N Pos. 1,2,3,4,5,16,17,18,19,20  
Seq#:21; N Pos. 1,2,3,4,5,16,17,18,19,20  
Seq#:22; N Pos. 1,2,3,4,5,16,17,18,19,20  
Seq#:23; N Pos. 1,2,3,4,5,6,17,18,19,20,21  
Seq#:24; N Pos. 10,11,12,13,14,15,16,17,18,19,21  
Seq#:25; N Pos. 1,11,12,13,14,15,16,17,18,19,20,22  
Seq#:26; N Pos. 1,2,3,4,5,16,17,18,19,20  
Seq#:27; N Pos. 1,2,3,4,5,16,17,18,19,20  
Seq#:28; N Pos. 1,2,3,4,5,16,17,18,19,20  
Seq#:29; N Pos. 1,2,3,4,5,16,17,18,19,20  
Seq#:30; N Pos. 1,2,3,4,5,16,17,18,19,20  
Seq#:31; N Pos. 1,2,3,4,5,16,17,18,19,20  
Seq#:32; N Pos. 1,2,3,4,5,16,17,18,19,20  
Seq#:33; N Pos. 1,2,3,4,5,16,17,18,19,20  
Seq#:34; N Pos. 5  
Seq#:35; N Pos. 5  
Seq#:36; N Pos. 5  
Seq#:37; N Pos. 9  
Seq#:38; N Pos. 2,6  
Seq#:39; N Pos. 6,8  
Seq#:41; N Pos. 2,6  
Seq#:43; N Pos. 4  
Seq#:44; N Pos. 8  
Seq#:45; N Pos. 11  
Seq#:46; N Pos. 12  
Seq#:47; N Pos. 13  
Seq#:48; N Pos. 14

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Seq#:49; N Pos. 15  
Seq#:51; N Pos. 1  
Seq#:52; N Pos. 20  
Seq#:53; N Pos. 1,20  
Seq#:54; N Pos. 19  
Seq#:55; N Pos. 19

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Input Set : A:\ISIS4804.ST25.txt  
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L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:46 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0  
L:94 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0  
L:160 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0  
L:208 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0  
L:274 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0  
L:352 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0  
L:430 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0  
L:508 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0  
L:574 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0  
L:646 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0  
L:694 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0  
L:742 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0  
L:796 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0  
L:874 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0  
L:940 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0  
L:1018 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:0  
L:1084 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:0  
L:1162 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0  
L:1240 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:0  
L:1318 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:0  
L:1402 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:0  
L:1468 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:0  
L:1540 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:0  
L:1619 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26 after pos.:0  
L:1699 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:0  
L:1778 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:0  
L:1858 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29 after pos.:0  
L:1936 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:0  
L:2014 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:0  
L:2092 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:0  
L:2172 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:0  
L:2190 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:0  
L:2208 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:0  
L:2226 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:0  
L:2244 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:0  
L:2268 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38 after pos.:0  
L:2292 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:0  
L:2328 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:0  
L:2370 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43 after pos.:0  
L:2394 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44 after pos.:0  
L:2418 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45 after pos.:0  
L:2442 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46 after pos.:0  
L:2466 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:47 after pos.:0  
L:2490 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48 after pos.:0  
L:2514 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:49 after pos.:0  
L:2544 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51 after pos.:0  
L:2562 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:52 after pos.:0

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L:2586 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:53 after pos.:0

L:2604 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54 after pos.:0

L:2622 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:55 after pos.:0